

CERIDAP

RIVISTA INTERDISCIPLINARE SUL
DIRITTO DELLE
AMMINISTRAZIONI PUBBLICHE

Estratto

FASCICOLO
3 / 2022

LUGLIO - SETTEMBRE

The development of a new model of urban regeneration in light of the digitalisation of public administration

Leonardo Scuto

DOI: 10.13130/2723-9195/2022-3-17

Questo articolo si propone di indagare i tratti distintivi del fenomeno della rigenerazione urbana come espressione del principio di sviluppo sostenibile, alla luce del modello di amministrazione digitale, ovvero una nuova struttura volta a favorire la digitalizzazione dei processi decisionali e una trasformazione delle funzioni amministrative, utilizzando le Tecnologie dell'Informazione e della Comunicazione (TIC). Questi elementi dovrebbero essere i principi su cui deve basare il nuovo modello di sviluppo urbano. L'influenza delle TIC sulle valutazioni ambientali è fondamentale per comprendere appieno la portata delle sfide affrontate dal legislatore italiano in tema di rigenerazione urbana. Lo scopo di questo lavoro è, quindi, quello di proporre un metodo per realizzare la migliore interazione possibile tra le forme tradizionali e innovative di rigenerazione urbana, cercando di identificare, nello specifico, come gli enti locali possano trarre vantaggio dalle nuove tecnologie sia in un'ottica procedurale che ambientale. Si sottolinea come le soluzioni tecnologiche innovative oggi trovino la loro massima espressione nello sviluppo di un nuovo modello urbano – le energie rinnovabili – che è uno dei mezzi individuati per perseguire gli obiettivi fissati dall'SDG n. 11 delle Nazioni Unite.

This article aims to investigate the distinctive features of the phenomenon of urban regeneration as an expression of the principle of sustainable development, in light of the digital administration model, i.e., a new structure designed to promote the digitalisation of decision-making procedures and a transformation of administrative functions, using Information and Communication Technologies (ICT). These elements should be the principles upon which the new urban development model is to be based. The influence of ICT on environmental assessments is crucial to fully understand both the potential and challenges faced by the Italian legislator when

addressing urban regeneration. The purpose of this paper is, therefore, to propose a method to achieve the best possible interaction between traditional and innovative forms of urban regeneration, trying to identify, specifically, how local authorities can take advantage of new technologies both in a procedural and environmental perspective. It is emphasized how innovative technological solutions today find their highest expression in the development of a new urban model – the renewable energy community – which is one of the means identified to pursue the goals set out by the SDG No. 11 drafted by the United Nations.

1. Introduction

This paper aims to analyse a phenomenon that has recently attracted the attention of legal science, given its radical evolution from a minor instrument to an imposing reality that can change key sectors of the economy and social relations.

This phenomenon is known as so called “urban regeneration”, considered by specialists in urban planning and law as one of the levers capable of ensuring the achievement of a more general concept of sustainable development.

The term “urban regeneration” is a locution on the meaning of which there is a *«wide generic sharing, although there is no univocal definition»*^[1].

In particular, against an exclusively conservative connotation that has characterised the matter for a long time, the concept in question today must be given an innovative meaning, *«able to address in an integrated manner problems of physical degradation and socio-economic distress of the territory»*^[2].

Moreover, the European legislator, first, and then the national one, have highlighted how to deal with the issue in a modern perspective of reinforcement of the relationship between the processes of social and economic regeneration of a territory and the energy and environmental policies behind it.

Therefore, the topic of urban regeneration can be addressed starting from perspectives related not only to the traditional idea of land consumption and safety, but also to environmental and energy policies and administrative procedures underlying the achievement of the objectives imposed by the concept of sustainable development.

From this point of view, therefore, it is interesting to try to investigate how the use of *Information and Communication Technologies* (hereinafter, ICT) and – *inter alia* – *Artificial Intelligence* (hereinafter, AI) are able to represent, for the Public Administration, valid tools to ensure greater efficiency to the environmental assessment procedures, at the basis of a fast development of so-called “urban regeneration” projects.

The success of this tool, as well as the basic perspective from which it takes its origin, is certainly significant, so that even the National Recovery and Resilience Plan (hereinafter, the NRRP)^[3] has made several references to the topic of urban regeneration in the “Mission” entitled “green revolution and ecological transition” processes, in which is encouraged the implementation of a large program of investment in order to achieve the objectives of the European framework.

The national legislator has not been delayed and – thanks to the promulgation of Legislative Decree 16 July 2020, No. 76 (Urgent measures for simplification and digital innovation)^[4] and subsequently of Legislative Decree 31 May 2021, No. 77 (Governance of the National Recovery and Resilience Plan and first measures to strengthen administrative structures and accelerate and streamline procedures)^[5] – has introduced several changes to the regulations on, *inter alia*, authorisation procedures for renewable energy and environmental assessments, especially on Environmental Impact Assessment and Strategic Environmental Assessment (hereinafter, the EIA and the SEA).

In fact, the intention of the legislator was to speed up procedures by considerably reducing the previous deadlines^[6] and creating a specific discipline to implement the Integrated National Energy and Climate Plan 2021-2030 (hereinafter, the INECP)^[7].

The Environmental Assessments, as regulated by Legislative Decree No. 152/2006 (henceforth, the Environmental Code) are a fundamental moment in urban regeneration projects, introducing a «*judgment on sustainability conducted at a time prior to the determination in order to implement the individual work and, that is, when the programmatic or planning decision is made*»^[8].

The background decision consists in setting the moment of evaluation in an earlier time frame, with the aim of ensuring that this takes place in the phase in which overall choices of government of the territory are adopted, including those

of “urban regeneration”^[9].

Not less important, however, is the regional legislation, which is a fertile ground in which, in recent years, the idea of “urban regeneration” has been characterised by a complex process, characterised, *e.g.*, by provisions concerning the relationship between regeneration and active policies for the attraction of European funds and the influence of the phenomenon on economic development.

In these same provisions emerges, among others, the recognition of the social value of urban regeneration for the reduction of urban decay especially in the most suburban areas of major cities^[10].

Finally, the regional legislative framework shows that the concept of urban regeneration mentioned above is necessarily characterised by environmental assessments that precede it, so much so that it *«has now assumed a significant legal value and an autonomous and innovative scope compared to other concepts of recovery and redevelopment»*^[11].

Moving within the complex framework outlined above, this paper will be dedicated to the recognition of the dimensions assumed by the phenomenon of urban regeneration in the Italian system, the problems raised by the use of digital tools to accelerate administrative decisions and the interesting future prospects of regulation and application.

In particular, these aims will be achieved by focusing on the critical issues raised by digitalisation and the impacts that this will have on public decisions on urban regeneration and energy transition.

Reference will then be made to renewable energy communities as an example of urban regeneration from an energy perspective.

2. The current debate and the difficulties related to the Italian legal framework

It is essential to try to outline the current coordinates of the debate developed, both in doctrine and in jurisprudence^[12], in relation to the application, in the Italian legal system, of the innovative scope that the term “urban regeneration” brings with it, without forgetting the impact that digitalisation will have on the choices that are up to the Public Administration.

First of all, it seems useful to point out how, at this time, a stable legislative framework is lacking.

It should be noted that the Draft Law on “Measures for urban regeneration”, which was presented in the Italian Senate on March 2019 (XVIII Legislature, Senate Act No. 1131), is still far from being converted^[13].

The text should set the general principles to identify «*the tasks entrusted to the different institutional levels, resources and incentives for interventions to be carried out in urban areas characterised by high urban building, environmental and socio-economic degradation*»^[14].

This Draft Law is aimed to define the fundamental principles in the field of urban regeneration, with the awareness by the Legislator that – as already pointed out – a shared definition of the above-mentioned expression still does not exist^[15]. Moreover, it is interesting to underline how urban regeneration, and more generally the wider subject of the government of the territory^[16], must be planned within the constitutional framework provided by Article 117, paragraph 3, of the Italian Constitution, and therefore within the framework of the concurrent legislation on the matter between the State and the Regions^[17].

With sentence No. 179 of 2016, the Italian Constitutional Court has ruled on the controversial issue of the precarious balance between regionalism and municipalism in the perspective of urban planning. This controversy represents a still open issue, and it is the result of the inertia of the legislator in adopting a “Consolidated Act” able to represent an effective instrument for the reorganisation and functioning of the subject.

In this case, the Judge of Laws has clarified the areas of competence in the field of government of the territory, with specific reference to the degree of impact that the regional legislative power has on the function of urban planning of the municipalities.

Accepting the observations of the judge *a quo* with reference to the contested Regional Law of Lombardy No. 131 of 2014^[18], the Court explicitly acknowledges the principle of municipal autonomy in the field of urban planning.

The Constitutional Court, in fact, focuses the attention on the importance and fundamental nature of urban planning, historically assigned to the level of the authority closest to the citizen, stating that this function falls within the range of

administrative powers in which the principle of municipal autonomy is confirmed.

In other words, the concurrent competence of the Regions in the field of territorial government and urban regeneration coexists with the traditional assignment of the urban planning function to municipal authorities.

This dynamic has created a “delicate relationship”, still unresolved by the reformed structure of Title V of the Italian Constitution^[19], between the reservation of regional functions and the power of municipalities to self-determine the planning and use of their own territory.

Finally, it will also be necessary to pay particular attention to the most significant jurisprudential pronouncements, which are affected by the difficulty of dealing with the application problems of a phenomenon not yet regulated by a positive discipline^[20].

In this regard, it is worth noting the increasing attention given to the topic by the doctrine and the aforementioned jurisprudence, which, in several cases, has used the concept of “land consumption” as a parameter of legitimacy of administrative acts related to urban transformation decisions.

Urban regeneration has assumed primary value as a key element to achieve the goals of “zero soil consumption”^[21], a purpose that has been re-affirmed by the most recent regional laws adopted on the subject that have given greater attention to the issue, as we have seen, than has been the situation at the state level^[22].

Analysing the regional laws^[23] adopted on the subject in previous years, a clear distinction seems to arise between the phenomena of “regeneration” and “requalification”.

In particular, the first one is interpreted as *«a set of actions concerning not only the urban framework but also the socio-environmental context of the area involved, while the second one is rather considered as part of this process, as it refers to specific building interventions»*^[24].

Therefore, it can be stated that “urban regeneration” is characterized as a complex process that, first, is aimed at recovering and reusing land and, second, it is functional to influence other areas of regional and state policies. Precisely in the regions^[25], there are increasingly widespread provisions aimed at encouraging the relationship between regeneration and active policies for attracting European funds and urban regeneration in function of economic development. Also

surfacing is the social value attributed to regeneration processes, such as reducing urban decay in city suburbs.

Consequently, the regional sources considered above allow the claim to be made that the concept of urban regeneration has now «*assumed a relevant legal value and an autonomous and innovative scope with respect to the other concepts of rehabilitation and redevelopment*»^[26].

From this point of view, therefore, doctrine has several times wondered about the possibility of qualifying regeneration as an administrative function representative of the model of public action that can be summarised in the formula of the so-called “enabling state”^[27], where the administration allows and facilitates the intervention of private subjects in the decision-making process, in order to involve them in the development of public interests^[28].

More specifically, the function of regeneration configures a “right to the city”^[29] for those to whom it is addressed, insofar as there is the ambition to recognise the inhabitants of a delimited urban area’s claim to enjoy the common goods belonging to their community^[30]. Finally, urban law – and administrative law in generally – is able to provide innovative solutions to achieve the objectives behind the concept of urban regeneration, *i.e.*, *inter alia*, the maintenance of the urban context. In particular, the law can favour the participation of private individuals in regeneration processes, obtaining the possibility of introducing important professional and economic resources into the system^[31].

It is possible, therefore, to conclude that the functions outlined above of the “enabling state” find a fertile ground in the municipal legislative context, given the direct relationship that can arise between private individuals and the public sector.

Moreover, the concept of urban regeneration, as we have noted, has led to a heated debate in doctrine about the possible attribution of a new administrative function to it^[32], even leading to the theorisation of a “right to regeneration”^[33].

For the purpose of this paper, it is interesting then to emphasise how, through the years, the concept of regeneration has taken on a broader dimension, also covering the “fight” against the phenomenon of urban decay, the depopulation of built-up areas, and even the concept of energy regeneration^[34].

In this regard, it should also be noted that the theme of regeneration can assume two different dimensions: a so-called “macro-regeneration”, in which complex

planning plays a primary role, and a “micro-regeneration”, in which planning has a minor role, where emerge concepts of «*social partnership aimed at fostering forms of collaboration between public administration and citizenship through the realisation of interventions for the requalification of urban areas*»^[35].

It is strikingly clear, then, that the normative concept of “urban regeneration” is different from the one of “urban redevelopment”, which includes, in an innovative way, complex actions aimed at the environmental and energy rehabilitation of our cities.

It is possible to conclude by stating that “urban regeneration” focuses on the recovery and redevelopment of what has already been built with the fundamental aim of directing urban planning activities^[36] and, not least, it aims to achieve the objective of avoiding excessive “land consumption”^[37].

Precisely, the concept of “micro-regeneration” – *i.e.*, based on bottom-up regeneration by citizens involved in decisions about the so-called urban commons – leads one to consider the function of Renewable Energy Community as a possible solution, *inter alia*, to so-called energy poverty, which will be discussed later in this paper.

3. Environmental authorisations according to the principle of sustainable development: a simplification is possible?

It is now necessary to focus on examining the contributions and benefits, procedural, economic, and social, that could result from the use of new technologies to promote urban regeneration.

It is worthwhile, firstly, to consider whether, and in what way, the model of the Digital Administration^[38] is able to simplify the procedures of Environmental Assessment, through ICT, AI, and new available technologies.

In order to do so, it is necessary to provide some coordinates regarding the principle of sustainable development, a principle that constitutes the basis of environmental law.

Sustainable development – as established by Article 3-*quater* of the Environmental Code as amended by Legislative Decree No. 4/2008 – is, in fact, the “keystone” of environmental law^[39].

As authoritative doctrine maintains, in fact, this represents the «*constraint placed*

on present generations to guarantee future ones, which is the only realistic way to safeguard the interests of the human species»^[40].

It should be considered, however, that often the Legislator has not shown the necessary sensitivity to adopt “sustainable” choices through the instrument of Environmental Assessment.

Precisely due to the growing interest in environmental issues, it has been emphasised that the “government of the territory” assumes connotations of broader scope than urban planning, since, with this term, should be understood as a «*unitary moment of coordination of different choices and different interests affecting the territory*»^[41].

In this context, SEA assumes particular importance, as an essential instrument for the realisation of the “environmental report” in which the assessment of the sustainability of development plays a fundamental role. This instrument, in fact, plays a central role in those functions carried out by the Regions through the adoption of plans and programs in compliance with the principle of sustainable development.

From this point of view, the concept of “simplification”^[42] presents itself as a complex phenomenon.

It is useful to note that this term is now worn out by the common use that is made of it, especially in the context of political dialectics, to the point that it has now become «*synonymous with reform of the public administration, sometimes replaced with the not elegant neologism “unbureaucratisation”*»^[43].

Simplification, actually, is the purpose to which the Legislator, more than the Public Administration, must aim, since, for its implementation, it is necessary to achieve the goal of reducing the legislation to the point of reaching the objective of a circumscribed perimeter of clear and easily identifiable rules.

On this path, the described role of the Legislator must be supported by scientific and doctrinal reflection on the opportunity and/or possibility of simplifying the administrative procedures that characterise the matter of so-called “urban regeneration”.

Hence, the usefulness of delving into the potential that ICT, first, and the model of the so-called Digital Administration^[44], later, have in relation to the simplification process.

The perspective, therefore, must broaden and, in order to streamline the process

of environmental assessment, it must consider the potential of the model of so-called E-Government^[45], useful to better protect the environmental assets involved.

In this context, it is very positive that at the European level^[46] the protection of sensitive interests has not been considered incompatible with the need to simplify and rationalise administrative procedures, including through the use of new technologies^[47].

This means that in the regulatory framework there is no absolute incompatibility between the protection of the sensitive interest (*i.e.*, in this case the so-called “environmental interest”) and the simplification of the procedures underlying the Environmental Assessments^[48].

4. The renewable energy community: a virtuous example of (energy) regeneration?

The model of the Renewable Energy Community (henceforth, the REC or Energy Community) was introduced by the European legislator through Directive 2018/2001/EU of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, with the fundamental aim of encouraging the use of renewable energy through greater involvement of citizens in all stages of energy production.

Moreover, RECs represent an innovative way by which it is possible to regenerate, from an energy point of view, entire residential areas and, secondly, to defeat the so-called “energy poverty”.

Article 22 of the above-mentioned Directive, in fact, describes REC as a legal entity based on the voluntary participation of members (*i.e.*, individuals, local authorities and small and medium-sized enterprises). This new model aims to provide environmental, economic, and social benefits and it will be a strategic instrument in the so-called urban regeneration projects.

Therefore, final customers (*i.e.*, consumers of electricity) are now able to join together to produce their own electricity locally, using renewable sources, in a new configuration, *i.e.*, so-called “in sharing”.

The Italian legislative framework still appears fragmented and is affected by the lack of clear rules on this point. In this regard one needs to consider also the entry

into force in Italy of Legislative Decree No. 162/2019^[49] (in particular, see Article 42-*bis*) and its implementing measures, such as the Italian Regulatory Authority for Energy, Networks, and the Environment (*Autorità di Regolazione per Energia Reti e Ambiente*, henceforth ARERA)^[50]'s Resolution 318/2020/R/eel^[50] and the Ministry of Economic Development (henceforth, the MED)'s Ministerial Decree 16 September 2020.

The REC, therefore, is configured as a legal entity with some key characteristics, such as: (i) it is based on open and voluntary participation, it is autonomous, and it is effectively controlled by shareholders or members who are located in the vicinity of the generation facilities held by the community thereof; (ii) whose shareholders or members are individuals, small and medium-sized businesses, territorial authorities or local authorities^[51], including municipal governments, provided that, for private enterprises, participation in the renewable energy community is not the main commercial and/or industrial activity; and (iii) whose main objective is to provide environmental, economic or social benefits to its shareholders or members or to the local areas in which the REC is operating, rather than financial profits^[52].

In addition, these new configurations are innovative due to the fact that they have introduced into the energy sector the figure of the “prosumer”^[53] (a term derived from the words “producer” and “consumer”), which identifies someone who, at the same time, is a producer and consumer of a given asset.

In conclusion, Energy Communities can be a key tool for dealing with energy poverty, as will be discussed in more detail below.

One needs to consider here that, in the aftermath of the crisis due to the COVID-19 health emergency^[54], there has been a heated debate about the role of the city, also in view of the changing trends in sociality, and in view of the increasing protection of the environment through the use of ICT^[55].

In this respect, the use of technologies would enable the development of energy efficiency in urban areas, *«creating innovative and sustainable transport solutions, integrating new renewable energy sources and reduce waste in water and waste management. This model also enhances the participation of investors who are called upon to make and implement technology investments, including public and private entities [...]. New financing models are developed, again considering both public sources (national and supranational), private forms of financing, and*

public-private partnership models»^[56].

Awareness of these issues requires the finding of alternative models with which the urban regeneration paradigm will have to deal, including the energy sector.

4.1. The function of Energy Community to deal with energy poverty

At this point, it is essential to question the potential of this new configuration in the perspective of urban regeneration and in dealing with energy poverty^[57].

A condition for achieving the “climate neutrality goal” of the European Green Deal is the implementation of the so-called “energy transition”^[58], which implies the replacement of fossil fuels and a progressive investment in renewable energy sources.

This objective, however, collides *inter alia* with the actual economic capacity of individuals to make a more sustainable adaptation of their families, especially considering the deep-rooted social problem of energy poverty.

Despite the fact that a shared definition of energy poverty has not been established at the European level, the issue can be simplified as the situation in which individuals or households are unable to adequately heat or provide other necessary energy services in their homes at an affordable cost^[59].

The so-called term “energy poverty” refers to «*a situation in which a household is unable to pay for the primary energy services (e.g., heating, cooling, lighting, travel, and power) needed to provide a decent standard of living, due to a combination of low-income, high-energy expenditure, and low energy efficiency in their homes*»^[60].

Fuel poverty has become a growing problem among European citizens and has recently been exacerbated as a result of the COVID-19 outbreak and the unstable situation in Ukraine, when restrictive measures forced people to spend much more time indoors, increasing residential demand due to increased employment and reducing the income of many economically stricken families^[61].

In this regard, the academic literature has debated the possibility of envisioning the existence of a “right to energy”^[62], the notion of access to energy as a fundamental human right, which was also outlined by the 2013 opinion of the European Commission’s Group on Ethics in Science and New Technologies (EGE) on the international human rights framework^[63].

The European debate began to address the issue of energy poverty in 2006 when, with the Communication on Prospects for the Internal Electricity and Gas Markets^[64], the European Council committed itself to reviewing national approaches to energy poverty and launching a major information and awareness campaign with a view to full market opening in 2007, including the creation of an Energy Consumers' Charter.

More recently, the European Commission published a Recommendation^[65] on energy poverty on 14 October 2020, along with the Renovation Wave initiative^[66] for the building sector as part of the European Green Deal, giving further impetus to the long-running discussion on energy poverty, which can be linked to renewed references to the need for a "just transition" in EU policy.

At the national level, only a few European member States have formulated a definition of energy poverty^[67], but many initiatives have been undertaken to address the problem, which may be divided into four main areas^[68]: *(i)* financial interventions, aiming at supporting low income individuals in the payment of bills; *(ii)* consumer protection measures, securing that markets operate in a way that does not disadvantage vulnerable consumers; *(iii)* energy efficiency measures, targeting programs on lower income households; and *(iv)* information provision measures, increasing awareness of the energy poverty issue and how to tackle it.

In this regard, a benchmark of energy poverty is a high incidence of energy costs on total household income^[69].

According to the European Commission Observatory^[70], 54 million people were unable to purchase the minimum energy goods necessary for their well-being, and Italy is among the European countries where households have the most difficulty paying their electricity and gas bills: 14.6 percent of households are unable to keep their homes adequately heated.

Moreover, addressing energy poverty features in Goals No. 1, 7 and 11 of the United Nations 2030 Agenda, which commits to «*ensuring access to affordable, reliable, sustainable and modern energy systems for all*»^[71].

4.2. Technology and urban regeneration: future scenarios in

light of the Energy Communities model

In the perspective of urban regeneration, the use of ICT^[72], in addition to the benefits and fields of application mentioned formerly, seems to encourage a so-called “horizontal” relationship, which considers new protagonists, *i.e.*, the public and private entity.

Thanks to the gradual spread of participatory territorial development instruments, including, *inter alia*, RECs, it is possible to appreciate a new planning model in which the citizen is placed at the center of decision-making choices^[73].

The innovation, in fact, is represented, *ex multis*, by the sharing economy model, the founding principle of Energy Communities, in which citizens are directly co-responsible for urban policies, finding themselves involved in both strategic planning and implementation, thus placing themselves in a position of complementarity.

In this perspective, the NRRP proposes to undertake comprehensive action to regenerate urban areas and combat the depopulation of cities, implementing specific interventions such as the energy requalification of buildings, the implementation of digital services, and the development of photovoltaic systems, with the final aim of enhancing the territory.

All of the above described, can be exemplified by means of Energy Communities, a model that aims to combine public and private entities for the purpose of producing energy from renewable sources and upgrading entire housing complexes.

In this latter regard, the energy community master plan recently presented in Brindisi is particularly relevant.

Building renovation, energy efficiency^[74], and self-generation from renewable sources are the elements behind this project, which aims to upgrade properties located in some suburban neighborhoods^[75], promoting energy savings for many households^[76].

Urban regeneration, as discussed above, makes use of interventions in the rehabilitation of buildings and areas as well as, in a more general meaning, actions related to social participation, thanks also to the digitalisation of services, emphasising a more extensive revitalisation of cities from an environmental and

economic point of view, with the involvement of the Public Administration and the private sector.

5. Conclusion

With the Agenda 2030 for Sustainable Development^[77], and in particular Goal No. 11, the aim of promoting the development of sustainable cities and communities was provided at the international level.

At the European level, the goal of sustainable land management^[78] and policies that monitor the impacts of land use has led to the establishment of the goal of achieving zero net land consumption by 2050^[79].

However, no clear definition of “soil consumption” can be found in the Italian legal framework: only the Environmental Code bears the definition of soil as «*the uppermost surface layer of the earth’s crust located between the rocky substrate and the surface. Soil consists of mineral components, organic matter, water, air, and living organisms*»^[80] (see Article 5, paragraph 1, letter v-*quater*), of the Environmental Code). Actually, the above-mentioned notion can be assumed, as in the case of urban regeneration, by other elements already used in interpretative terms by the Doctrine^[81], as discussed in the course of the paper.

In this regard, the 2012 United Nations Conference (*The Future We Want* (UN(2012))^[82] already invited national governments to combat land degradation. Thus, the intervention of the Italian legislator in the sense of adapting to the European and international provisions on the subject is made evident, recalling that RECs can be a valuable tool for combating energy poverty.

This paper, moreover, has highlighted the complex relationship between policies aimed at implementing the energy transition^[83], which cannot but pass through the model of urban regeneration, and the use of new technologies^[84] in order to speed up decisions, especially in environmental matters, by the Public Administration.

The REC stands as an innovative model with a European framework that, through the participation of public entities, local governments, municipalities, individuals, and businesses, aims to encourage the production and consumption of renewable energy, in order also to achieve environmental, social, and economic benefits.

In conclusion, Energy Communities^[85], where used to develop the urban regeneration model, would make it possible to achieve the goals set by UN Agenda 2030 and, through self-consumption of self-generated energy, could be a viable solution to the long-standing issue of energy poverty^[86].

1. L. Bellicini, *Rigenerazione urbana sostenibile*, voce, Enc. it. Treccani, IX appendice, 2015. Translation is mine.
2. T.A.R. Puglia (sezione I), judgment of 13 December 2019, No. 1967.
3. The National Recovery and Resilience Plan (*Piano Nazionale di Ripresa e Resilienza*), was subsequently integrated and amended, in particular, by the Legislative Decree 6 May 2021, No. 59 (Urgent measures concerning the Supplemental Fund for the National Recovery and Resilience Plan and other urgent investment measures), which converted in Law 1st July 2021, No. 101 and by Legislative Decree 6 November 2021, No. 152 (Urgent dispositions for the implementation of the National Recovery and Resilience Plan (the “NRRP”) and for the prevention of mafia infiltration). Moreover, it is worth remembering that the Italian NRRP is part of the Next Generation EU program (the “NGEU”), concerning the Euro 750 billion package that the European Union negotiated in response to the pandemic crisis. One of the most important components of the NGEU program is the Recovery and Resilience Facility (the “RRF”), which has a duration of six years (*i.e.*, from 2021 to 2026) and involves a total size of Euro 672,5 billion in the form of grants and of low-interest loans.

In this context, the Italian NRRP envisages investments and a consistent reform package concerning *(i)* Euro 191,5 billion in resources allocated through the RRF; and *(ii)* Euro 30,6 billion funded through the Complementary Fund established by Decree No. 59/2021.

The Plan is developed into three main strategic directions shared by the European level: *(i)* digitalisation and innovation; *(ii)* ecological transition; and *(iii)* social inclusion. This intervention aims to repairing the economic damage caused by the pandemic crisis, with the aim of addressing the structural weaknesses of the Italian economy and leading the country along a path of ecological and environmental transition.

4. The Decree was converted in Law 11 September 2020, No. 120.
5. The Decree was converted in Law 29 July 2021, No. 108.
6. See, *inter alia*, Article 28, paragraph 1, letter a), No. 1), of the Decree No. 77/2021 which makes an important amendment to Article 12, paragraph 1 of the Legislative Decree 3 April 2006, No. 152 (the Environmental Code), stating that the proceeding Authority is required to transmit the preliminary report (*i.e.*, scoping), preparatory to the SEA procedure, exclusively through “computer support”. This modification reflects an important turning point in the perspective of a complete digitalisation of the entire Strategic Environmental Assessment procedure.

Finally, it is important to remember the provision that puts at the responsibility of the

proceeding Authority some preliminary activities that must be carried out. The reference, in this case, is to environmental report. In this document, the Authority must include a considerable amount of information. Only through the use of algorithms and AI will the Public Administration be able to account for every effect of the transformation intervention on the territory.

7. The Integrated National Energy and Climate Plan 2021-2030 (*Piano Nazionale Integrato per l'Energia e il Clima*) was issued by the Ministry of Economic Development, the Ministry of Ecological Transition and by the Ministry of Infrastructure and Sustainable Mobility. Please consider that further targets relating to the decarbonisation aspect have been defined in the INECP. The INECP, moreover, is aimed at implementing the energy system, in particular, by significantly reducing procedural time frames.
8. F. Fracchia, F. Mattosoglio, *Lo sviluppo sostenibile alla prova: la disciplina di via e vas alla luce del D.Lgs. No. 152/2006*, in *Riv. Trim. Dir. Pubbl.*, 1, 2008, pp.121-ss. (translation is mine).
9. On this point, the Court of Justice has also expressed its opinion with the judgment 7 June 2018, C-160/17, ECLI:EU:C:2018:401, stating that, in order to ensure a high level of environmental protection and to promote sustainable development, it reaffirmed how the EAS – distinguishing itself from the Environmental Impact Assessment – ensures environmental protection with anticipated effect. The novelty for which it is important to highlight the above-mentioned judgment is that the Court has ruled the application of the EIA also to planning instruments different from the traditional urban planning instruments.
For a careful analysis of the above judgment, see C. Regali Costa Do Amaral, *Evolution of urban planning in Italy: the Strategic Environmental Assessment from the European Union to Latin America*, in *Dpceonline.it*, 3, 2018, pp. 771-782.
10. See, *inter alia*, Article 1, paragraph 4, of Lazio Regional Law No. 7/2017, which stated in this regard that «*the areas subject to urban regeneration interventions constitute priority areas for the allocation of European structural funds to support economic and social activities*» (translation is mine).
11. F. Di Lascio, *Quali tendenze in corso nella rigenerazione delle città?*, in *Riv. Giur. Edil.*, 2, 2018, pp. 135-ss. (translation is mine).
12. See, *inter alia*, E. Chiti, *La rigenerazione di spazi e di beni pubblici: una nuova funzione amministrativa?*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani*, *Contributo al diritto delle città*, Il Mulino, Bologna, 2017, pp. 117-ss.; B. Boschetti, *L'impatto della funzione di rigenerazione sugli strumenti tradizionali del diritto urbanistico diversi dalla pianificazione*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani. Contributo al diritto delle città*, Il Mulino, Bologna, 2017, pp. 177ss.; P. Stella Richter, *I sostenitori dell'urbanistica consensuale*, in P. Urbani (a cura di), *Le nuove frontiere del diritto urbanistico*, Giappichelli, Torino, 2013; E. Boscolo, *Beni comuni e consumo di suolo. Alla ricerca di una disciplina legislativa*, in P. Urbani (a cura di), *Politiche urbanistiche e gestione del territorio. Tra esigenze del mercato e coesione*

sociale, Giappichelli, Torino, 2015, pp. 69-ss.

In the same regard, see, *inter alia*, J. Berry, S. McGreal, B. Deddis, *Urban regeneration: property investment and development*, Taylor and Francis, 2011, and P. Roberts, *The evolution, definition and purpose of urban regeneration*, in P. Roberts, H. Sykes, R. Granger, *Urban regeneration: a Handbook*, SAGE Publications Ltd, 2017.

13. The 13th Environment Committee of the Senate of the Republic is proceeding, even as we stand today, with the consideration of bills on urban regeneration. In this regard, see, *inter alia*, with the Dossier of March 2021, n. 370, entitled *Misure per la rigenerazione urbana, Testo unificato per i disegni di legge A.S. No. 1131, 985, 970, 1302, 1943, 1981*, drafted by the Italian Senate – *Ufficio ricerche nei settori dell’ambiente e del territorio* (<https://www.senato.it/service/PDF/PDFServer/BGT/01210063.pdf?msclid=7b08921ed10e11ec803547f602614092>).
14. Translation is mine.
15. In this sense, as mentioned above, as of today no unified and organic discipline of the phenomenon exists in State legislation. The most important reference is contained in Article 3-*bis* of Legislative Decree No. 380/2001, introduced by art. 17, paragraph 1, lett. b), of Legislative Decree No. 133/2014, which, however, refers literally to conservation interventions, using a formulation that appears not very innovative if compared with others covered by regional laws adopted in the same period.
In this regard, see, with E. Boscolo, *La riqualificazione urbana: una lettura giuridica*, in *Rapporto sulle città 2017 – Mind the gap. Il distacco tra politiche e città*, Urbanit Background Papers, 8, 2017.
16. On the concept of urban regeneration for “territory law”, see, *inter alia*, M. Mengozzi, *Il “governo del territorio” e la sua intersezione strutturale con la “tutela dell’ambiente”: linee di continuità e di evoluzione*, in *Federalismi.it*, 15, 2017, pp. 2-30; G. Sciuillo (a cura di), *Governo del territorio e Autonomie territoriali*, il Mulino, Bologna, 2010, G. F. Cartei, *Rigenerazione urbana e governo del territorio*, in *Istituzioni del Federalismo*, 3, 2017, pp. 614-ss.; A. Giusti, *La rigenerazione urbana. Temi, questioni e approcci nell’urbanistica di nuova generazione*, Editoriale Scientifica, Napoli, 2018, pp. 75-ss.; A. Harding, *Public-private Partnerships in Urban Regeneration*, in M. Campbell, *Local Economic Policy*, London, 1990; A. Acierno, *Urban regeneration and market-led planning during the Thatcher years*, in *Tria*, 10, 2013, pp. 239-250; B. Boschetti, *L’impatto della funzione di rigenerazione sugli strumenti tradizionali del diritto urbanistico diversi dalla pianificazione*, in F. Di Lascio-F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani. Contributo al diritto delle città*, il Mulino, Bologna, 2017, pp. 177-ss.; M. Tucci, *Programmazione amministrativa e pianificazione del territorio*, Giappichelli, Torino, 2003; R. Gallia, *Sviluppo economico e attrezzatura del territorio. Alle origini della valutazione nell’amministrazione italiana*, in *Riv. Giur. Mezzogiorno*, 2, 2018, pp. 483-504.
In this regard, it’s worth nothing what has been stated by G. De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8,

2019, pp. 2-28, which attributes a “fundamental role” to the local administration «*in planning cities in order to combine the principles of environmental sustainability with the governance of the territory, and urban regeneration emerges clearly as a necessary choice in the processes of land transformation by municipal governments*» (translation is mine).

In the same way, G. De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8, 2019, pp. 2-28, underlines the role of local authorities in a different light: «*local and regional authorities can play a primary role in this transformation by promoting sustainable consumption patterns and fostering resource-efficient lifestyles, through training and awareness-raising campaigns, promoting “sharing economy” approaches, encouraging reuse and recovery, improving waste collection and encouraging high quality recycling of urban waste in the sense of Urban Mining, understood as the ability to extract raw materials from technological waste*» (translation is mine). In the same regard, see C. Innella, G. Barberio, C. Brunori, F. Musumeci, L. Petta, *Economia circolare in ambito urbano*, in *Energia, Ambiente ed Innovazione*, 1, 2017, pp. 58-ss.

17. It is known that, during the revision of Title V, Second Part, of the Italian Constitution, the Constitutional Law No. 3 of 2001 has modified art. 117 thereof, introducing – in the catalogue of matters reserved to concurrent regional legislation – the wording “government of the territory” instead of the previous “urban planning”. Whatever positions to be taken with respect to the ongoing debate on the relationship between “government of the territory” and “urban planning”, it is possible to agree with S. Amorosino when he points out that the first indicates more than a matter, a system of functions impacting on the territory and, ontologically, a multilevel governance. On this point see S. Amorosino, *Il «governo del territorio» tra Stato, Regioni ed enti locali*, in *Riv. giur. edil.*, 2, 2003, pp. 77-ss.
18. See P. Urbani, *Il recupero dei beni immobili dismessi tra premialità e consumo di suolo. Il caso del p.g.t. di Milano e la legislazione lombarda in materia di rigenerazione urbana*, in *Riv. Giur. Edil.*, 2, 2021, pp. 428-ss.
19. In this regard, see, *inter alia*, A. Colavecchio, *La materia “energia” tra “nuovo” e “novissimo” Titolo V della Costituzione*, in *Studi in onore di Francesco Gabriele*, Bari, 2016, pp. 355-ss.; R. Galbiati, G. Vaciago, L. R. Perfetti, *Il governo dell’energia dal decentramento alla riforma costituzionale*, in *Mercato concorrenza regole*, 2, 2002, pp. 362-365.
20. See P. Carpentieri, *Il consumo del territorio e le sue limitazioni. La rigenerazione urbana*, in *Federalismi.it*, 1, 2020, pp. 1-59.
21. As an example, the expression “zero balance land consumption” was used in Article 5 of Emilia-Romagna Regional Law No. 24/2017. Article 5, paragraph 1, of the above-mentioned Regional Law states, in fact, that «*the Emilia Romagna Region, in compliance with Articles 9, 44 and 117 of the Constitution and with the principles inferable from Articles 11 and 191 of the Treaty on the Functioning of the European Union, assumes the goal of zero soil consumption to be achieved by 2050. To this end, land and urban planning instruments pursue the limitation of soil consumption through the reuse and regeneration of*

urbanised territory» (translation is mine).

In this respect, G. De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8, 2019, pp. 2-28, underlines how the urban regeneration «[...] is based on the recovery of the built environment and thus on the valorisation and regeneration of existing areas and – within the framework of urban planning regulations – curbs the phenomenon of land consumption, understood as the transformation of agricultural and natural land into urban soil» (translation is mine).

On the same concept, see, *inter alia*, G. Guzzardo, *La regolazione multilivello del consumo di suolo e del riuso dell'abitato*, in *Rivista Italiana di Diritto Pubblico Comunitario*, 1, 2018, pp. 119-ss.; C. Pagliaroli, *Alla Corte Costituzionale la legge regionale lombarda sul contenimento del consumo di suolo*, in *Rivista giuridica dell'edilizia*, 4, 2018, pp. 937-ss.

22. See T. Bonetti, *La rigenerazione urbana nell'ordinamento giuridico italiano: profili ricostruttivi e questioni aperte*, in E. Fontanari, G. Piperata (a cura di), *Agenda RECycle.*, il Mulino, Bologna, 2017, pp. 69-ss.

23. For example, the Region of Lombardy, with Lombardy Regional Law No. 31/2014 entitled «*Provisions for the reduction of land consumption and the redevelopment of degraded land*», had provided a complete notion of the concept of urban regeneration (see Article 2, paragraph 1, lett. e)), interpreting it as a complex and integrated process defined as «*the coordinated set of urban-building interventions and social initiatives that may include the replacement, reuse, redevelopment of the built environment and the reorganisation of the urban layout through the recovery of degraded, underused or even disused areas, as well as through the construction and management of equipment, infrastructures, green spaces and services and the recovery or enhancement of existing ones, with a view to sustainability and environmental and social resilience, technological innovation and the increase of biodiversity in the urban environment*» (translation is mine). Please consider that the above-mentioned letter was recently modified by Article 2 of the Lombardy Regional Law No. 18/2019).

The interpretation provided by case law concerning the notion of urban regeneration provided by the above-mentioned Regional Law is also interesting. The administrative judge, in fact, has ruled that «*the conversion of already urbanised areas into vacant land cannot be considered extraneous to the motivations on which the provisions of law No. 31/2014 are based, since environmental requirements are not only preserved through the reuse of the existing assets but also through the restitution to vacant land of an area already used*» (T.A.R. Milan (Lombardy), section II, judgment of 10 January 2022, No. 1967, translation is mine. In the same direction, see, *inter alia*, T.A.R. Milan (Lombardy), section II, judgment of 9 December 2021, No. 2763; T.A.R. Brescia (Lombardy), section II, judgment of 2 September 2021, No. 780).

Further definitions of urban regeneration can be found, *inter alia*, in Article 1 of Puglia Regional Law No. 21/2008, entitled «*Provisions for urban regeneration*», which aims to «*promote the regeneration of parts of cities and urban systems in coherence with municipal and inter-municipal strategies aimed at improving the urban, housing, socio-economic,*

environmental and cultural conditions of human settlements and by means of intervention tools developed with the involvement of inhabitants and public and private stakeholders» (translation is mine).

In this regard, please also consider the Tuscany Regional Law No. 65/2014, which dedicates Article 125, paragraph 1, to urban regeneration interventions, considering them as a «*strategic alternative to new land consumption»* in order to «*requalify the urban context through a systematic set of works»* (translation is mine).

For the sake of completeness, however, it should be noted that there are also cases where the term “regeneration” is still used as the equivalent of the expression “requalification”, as in Article 3, paragraph 1, of Marche Regional Law No. 22/2011: «*the municipality provides for the planning of activities aimed at the redevelopment and containment of urban extensions through the adoption of the Operational Programme for Urban Redevelopment (Programma perative per la riqualificazione urbana, PORU), having the value of an implementation plan [...], valid for no more than ten years»* (translation is mine).

As regard the constitutional limits of the above-mentioned urban regeneration legislation see, *inter alia*, A. Giusti, *I limiti costituzionali alle leggi urbanistiche regionali “di quarta generazione”*, in *Giur. Cost.*, 5, 2021, pp. 2124-ss.

24. F. Di Lascio, *Quali tendenze in corso nella rigenerazione delle città?*, in *Riv. Giur. Edil.*, 2, 2018, pp. 135-ss. (translation is mine).

25. In this regard, Article 7, paragraph 4, of Lazio Regional Law No. 7/2017 stated that «*the areas subject to urban regeneration interventions constitute priority areas for the allocation of European structural funds in support of economic and social activities. The Region introduces specific criteria in the definition of calls on European structural funds in favour of areas subject to urban regeneration interventions and experimental urban regeneration projects aimed at innovation, implementation of particular forms of circular economy and social inclusion»* (translation is mine).

Also noteworthy is the provision of letter c), of Article 7, of the aforementioned Regional Law, in which the regional Lawmaker has set itself the goal of «*upgrading the existing city, limiting land consumption, improving land endowments by increasing public areas or constructing new public works or upgrading existing ones, promoting sustainable mobility, in particular by enhancing rail mobility»* (translation is mine).

26. G. Piperata, *Rigenerare i beni e gli spazi della città: attori, regole e azioni*, in E. Fontanai, G. Piperata (a cura di), *Agenda RECycle*, il Mulino, Bologna, 2017, pp. 28-ss. (translation is mine). In the same direction see, *inter alia*, R. Dipace, *La rigenerazione urbana tra rigenerazione e programmazione*, in *Riv. Giur. Edil.*, 5, 2014, pp. 237-260.

27. The debate behind the elaboration of the notion of urban regeneration has been very animated in the doctrine. This term, as defined by E. Chiti, *La rigenerazione di spazi e di beni pubblici: una nuova funzione amministrativa?*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani, Contributo al diritto delle città*, Il Mulino, Bologna, 2017, pp. 117-ss., does not refer to a specific level of government of the territory (*e.g.*, the State), but rather to a type of public action that finds its space in various levels of

government, including the local one. The Author discusses two aspects that are worth recalling. On the one hand, the Author emphasises, «*administrative activity aims to facilitate private action, identifying new needs and releasing as yet unrecognised social forces. On the other hand, the general design of public policies remains in the hands of the public administrations, but the latter require the collaboration of private parties, not only in terms of the provision of services, but also for the development of the various solutions that help to specify the public policies concerned*» (translation is mine).

Hence a considerable change in the position of citizens, no longer exclusively recipients of administrative activity, but protagonists of it, through a real assumption of responsibility in the care of public interests.

Therefore, it is possible to use the term “active citizenship contribution”: in this regard, see, *inter alia*, R. Dipace, *Le politiche di rigenerazione dei territori tra interventi legislativi e pratiche locali*, in *Istituzioni del Federalismo*, 3, 2017, pp. 625-650, and F. Giglioni, *I regolamenti comunali per la gestione dei beni comuni urbani come laboratorio per un nuovo diritto delle città*, in *Munus*, 2, 2016, pp. 270-ss. For a broader analysis of the debate developed in the Doctrine see, *inter alia*, F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani. Contributo al diritto delle città*, Il Mulino, Bologna, 2017.

28. In this regard see E. Chiti, *La rigenerazione di spazi e di beni pubblici: una nuova funzione amministrativa?*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani, Contributo al diritto delle città*, Il Mulino, Bologna, 2017, pp. 30-ss. The Author claims that «*the overall aim of administrative activity is the renewal of the function of the municipalities, aimed at improving the quality of life in the city. According to the regulatory framework, moreover, this essential purpose can be enriched, because it additional purposes can be associated with it, ranging from social innovation to the participation of the individual in the life of the local community. The instruments given to the administration for the pursuit of these purposes are not those typical of direct execution. Rather, the administration cooperates with private parties in defining and carrying out specific regeneration interventions*» (translation is mine).
29. As clearly specified by A. Bonomo, *Rigenerazione urbana e nuove modalità partecipative: una riflessione*, in *Annali – estratto*, Dipartimento Jonico, Università degli studi di Bari, Bari, 2017, this term refers to the «*set of rules governing urbanised spaces whose origin lies in the representation of the community that city institutions interpret and in the direct involvement of civil society organisations or individuals*» (translation is mine). It should be noted that the term was originally coined in 1970 by Lefebvre, see H. Lefebvre, *Il diritto alla città*, Marsilio Editore, Venezia, 1970 (original edition: *Le droit à la ville*, Editions Anthropos, Paris, 1968).

For a detailed analysis on this point see F. Cortese, *Che cosa sono i beni comuni?*, in M. Bombardelli (a cura di), *Prendersi cura dei beni comuni per uscire dalla crisi*, Editoriale Scientifica, Napoli, 2016, pp. 37-ss.; F. Giglioni, *Forme di cittadinanza legittimate dal principio di sussidiarietà*, in *Dir. Soc.*, 2, 2016, pp. 305ss.; and F. Giglioni, *Regolamento*

- beni comuni: il nuovo prototipo di Labsus*, in *labsus.org*, 2017.
30. L. Muzi, *L'amministrazione condivisa dei beni comuni urbani: il ruolo dei privati nell'ottica del principio di sussidiarietà orizzontale*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani*, Il Mulino, Bologna, 2016, pp. 117-ss.
 31. See S. Amorosino, *il finanziamento e le dotazioni urbanizzate nei programmi di rinnovamento urbano*, in *Riv. Giur. Edilizia.*, 6, 2013, pp. 315-ss.
 32. E. Chiti, *La rigenerazione di spazi e di beni pubblici: una nuova funzione amministrativa?*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani, Contributo al diritto delle città*, Il Mulino, Bologna, 2017, pp. 15-ss.
 33. B. Boschetti, *L'impatto della funzione di rigenerazione sugli strumenti tradizionali del diritto urbanistico diversi dalla pianificazione*, in F. Di Lascio, F. Giglioni (a cura di), *La rigenerazione di beni e spazi urbani, Contributo al diritto delle città*, Il Mulino, Bologna, 2017, pp. 177-ss.
 34. On the intersections between energy efficiency and urban regeneration, in the light of ecological transition, it should be preliminary noted that the Regulation 2021/241/EU of the European Parliament and of the Council of 12 February 2021 establishing the "Recovery and Resilience Facility" (hereinafter, the RRF Regulation) considers green transition as one of the six "pillars" of tomorrow's Europe, stating that this «(the green transition) should be supported by reforms and investments in green technologies and capacities, including in biodiversity, energy efficiency, building renovation and the circular economy, while contributing to the Union's climate targets, fostering sustainable growth, creating jobs and preserving energy security». The Italian Recovery and Resilience Plan also dealt with simplifying procedures, including energy efficiency authorisations.
- In this regard see, *inter alia*, F. De Leonardis, *La transizione ecologica come modello di sviluppo di sistema: spunti sul ruolo delle amministrazioni*, in *Dir. Amm.*, 4, 2021, pp. 779-ss.; D. Tabarelli, *Considerazioni sulla transizione italiana verso un modello energetico ecosostenibile*, in *Energia, ambiente ed innovazione*, 2, 2018, pp. 24-ss.; L. Ammannati, *Le politiche di efficienza energetica nel quadro del pacchetto europeo clima-energia*, in *Amministrazione in cammino*, in *Amministrazione in cammino*, 7, 2013, pp. 5-ss.; A. Lorenzoni, *La produzione elettrica con fonti rinnovabili per la sostenibilità e la competitività italiana*, in *L'industria*, 1, 2008, pp. 125-ss.; L. Ammannati, *Una nuova governance per la transizione energetica dell'Unione Europea. Soluzioni ambigue in un contesto conflittuale*, in L. Ammannati (a cura di), *La transizione energetica*, Giappichelli, Milano, 2008, pp. 12-ss.
- With reference to the use of ICT in relation to urban regeneration and energy efficiency, see, *inter alia*, A. M. Gambino, M. Provenzano, *Smart Cities ed efficientamento energetico*, in G. Olivieri, V. Falce (a cura di), *Smart Cities e Diritto dell'Innovazione*, Giuffrè, Milano, 2016, pp. 51-72; T. Favaro, *Verso la Smart City: sviluppo economico e rigenerazione urbana*, in *Riv. Giur. Edil.*, 2, 2020, pp. 87-ss.; C. Meloni, A. Tundo, G. Paoloni, F. Orsucci, F. Cervini, *Dalla Smart City alla Smart Community*, in *Energia, ambiente ed innovazione*, 1, 2017, p. 40-ss.; E. Ferrero, *Le "Smart Cities" nell'ordinamento giuridico*, in

Il Foro Amministrativo, 4, 2015, pp. 1273-ss.; F. Gaspari, *Città intelligenti e intervento pubblico*, in *Il diritto dell'economia*, 1, 2019, pp. 78-80.

With regard to the application of energy efficiency in the regional context, the Master Plan of the Municipality of Trieste, for example, has recognised important incentives for those who carry out interventions aimed at the energy requalification of buildings, as explained by S. Santoro, *Perequazione urbanistica, compensazione e altri strumenti premiali in funzione di rigenerazione urbana, tra urbanistica e pianificazione territoriale*, in *Foro Amm.*, 11, 2020, pp. 2227-ss. For a current analysis on the role of energy efficiency and urban regeneration in the Legislative Decree 16 July 2020, No. 76, see A. Giusti, *La rigenerazione urbana tra consolidamento dei paradigmi e nuove contingenze*, in *Dir. Amm.*, 2, 2021, pp. 439-ss.; C. A. Barbieri, *La disciplina urbanistica nazionale della città pubblica: è necessaria una riforma e non solo degli standard*, in C. Giamo (a cura di), *Dopo 50 anni di standard urbanistici in Italia. Verso percorsi di riforma*, INU Edizioni, Roma, 2019, pp. 41-ss.; M. A. Sandulli, *Effettività e semplificazioni nel governo del territorio: spunti problematici*, in *Dir. Amm.*, 2, 2003, pp. 517-ss.

35. R. Dipace, *Le politiche di rigenerazione dei territori tra interventi legislativi e pratiche locali*, in *Istituzioni del Federalismo*, 3, 2017, pp. 625-650 (translation is mine). In the same direction see A. Giusti, *La rigenerazione urbana. Temi, questioni e approcci nell'urbanistica di nuova generazione*, Editoriale Scientifica, Napoli, 2018.

36. About the concept of “urban planning”, see P. Stella Richter, *I sostenitori dell'urbanistica consensuale*, in P. Urbani, *Le nuove frontiere del diritto urbanistico*, Giappichelli, Torino, 2013, pp. 21-ss.

The Author remarks that «today we are no longer living in a phase of expansion of our cities, but in a phase in which the problem is that of the recovery and reuse of the existing one» (translation is mine).

37. The concept of so-called “land consumption” has been widely addressed in doctrine. On the subject see, *inter alia*, L. De Lucia, *Il contenimento del consumo di suolo e il futuro della pianificazione urbanistica e territoriale*, in G. De Giorgi Cezzi, P.L. Portaluri (a cura di), *La coesione politico-territoriale*, parte di D. Sorace, L. Ferrara (diretto da), *A 150 anni dall'unificazione amministrativa italiana*, vol. II, Firenze University Press, Firenze, 2017, pp. 299-ss.; and P. Urbani, *A proposito della riduzione del consumo di suolo*, in *Istituzioni del Federalismo*, 3, 2016, pp. 227-ss.; F. Leonardis, *La transizione ecologica come modello di sviluppo di sistema: spunti sul ruolo delle amministrazioni*, in *Dir. Amm.*, 4, 2021, pp. 779-ss.; G. Torelli, *Le ultime frontiere del recupero e della valorizzazione del patrimonio urbano: gli usi temporanei*, in *Dir. Amm.*, 2, 2021, pp. 475-ss.; A. Giusti, *La rigenerazione urbana tra consolidamento dei paradigmi e nuove contingenze*, 2, 2021, pp. 439-ss.; S. Santoro, *Perequazione urbanistica, compensazione e altri strumenti premiali in funzione di rigenerazione urbana, tra urbanistica e pianificazione territoriale*, in *Foro Amministrativo*, 11, 2020, pp. 2227-ss.; G. Pagliari, *Governo del territorio e consumo del suolo. Riflessioni sulle prospettive della pianificazione urbanistica*, in *Riv. Giur. Edil.*, 5, 2020, pp. 325-ss.; and T. Favaro, *Verso la Smart City: sviluppo economico e rigenerazione urbana*, in *Riv.*

- Giur. Edil.*, 2, 2020, pp. 87-ss.
38. This expression refers to the set of measures introduced – in addition to the strategic documents of European derivation and, in particular, the European Digital Agenda 2020 – in order to improve the process of digitalisation of the Public Administration.
39. See G. Rossi (a cura di), *Diritto dell'ambiente*, Giappichelli, Torino, 2021.
40. F. Fracchia, *Sviluppo sostenibile e diritti delle generazioni future*, in *Riv. quadr. dir. amb.*, 0, 2010, pp. 13-ss.
41. G. Pastori, *Governo del territorio e nuovo assetto delle competenze statali e regionali*, in B. Pozzo, M. Renna, (a cura di), *L'ambiente nel nuovo Titolo V della Costituzione*, Giuffrè, Milano, 2004 (translation is mine).
42. See, *inter alia*, A. Travi, *La semplificazione amministrativa come strumento per far fronte alla crisi economica*, in *Giustamm.it*, 5, 2016, pp. 1-14.; R. Leonardi, *La tutela dell'interesse ambientale, tra procedimenti, dissensi e silenzi*, in *Nuovi problemi di amministrazione pubblica*, Studi diretti da F. Scocca, Torino, Giappichelli Editore; D. Messineo, *Livelli essenziali di semplificazione: un ossimoro costituzionale*, in *Giurisprudenza Costituzionale*, 6, 2012, pp. 4856-ss.
- For more strictly environmental profiles see M. Renna, *I principi in materia di tutela dell'ambiente*, in *Riv. quadr. dir. amb.*, 1-2, 2012, pp. 62-ss. Lastly, please note the interesting *Italiadecide Report 2015*, entitled *Semplificare è possibile: come le pubbliche amministrazioni potrebbero fare pace con le imprese*, Bologna, 2015.
43. F. Merusi, *La semplificazione: problema amministrativo o legislativo?*, in *Nuove Autonomie*, 3-4, 2008, pp. 340-ss. Translation is mine.
44. See, *inter alia*, D.U. Galetta, *Transizione digitale e diritto ad una buona amministrazione: fra prospettive aperte per le Pubbliche Amministrazioni dal Piano Nazionale di Ripresa e Resilienza e problemi ancora da affrontare*, in *Federalismi.it*, 7, 2022, pp. 103-ss.
45. See D.U. Galetta, *Open-Government, open-data e azione amministrativa*, in *Istituzioni del Federalismo*, 3, 2019, pp. 663-683, and D.U. Galetta, *Algoritmi, procedimento amministrativo e garanzie: brevi riflessioni, anche alla luce degli ultimi arresti giurisprudenziali in materia*, in *Riv. it. dir. pubbl. communit.*, 3, 2020, pp.501-ss.
46. In this sense, it should be noted that the European Council, with the Recommendation of 20 May 2020 (COM2020:512 final) addressed to Italy, highlighted that only an effective public administration is able to ensure that the measures adopted to deal with the health emergency are not slowed down in their implementation. Even more significant – as stated in point 24 of the Recommendation – is the identification of the weaknesses that characterise the Italian Public Administration.
- The «*length of procedures, low level of digitalisation and poor administrative capacity [...]*» are just some of the problems that the Italian Public Administration still suffers today and please note, the same are identifiable, as regards the focus of this analysis, even in environmental assessments. It is therefore stressed that «*procedures and controls must be implemented rapidly, in a context in which public resources to support economic activity are significantly increased [...]*».

47. It is worth noting that even the Constitutional Jurisprudence, with the famous ruling No. 85 of 9 May 2013, intervening on the Decree Law No. 207/2012 relating to the case “Ilva”, clearly stated that «*the Italian Constitution [...] requires a continuous and mutual balancing between principles and fundamental rights, without claims of absoluteness for any of them. The qualification as “primary” of the values of environment and health means therefore that they cannot be sacrificed to other interests, even if constitutionally protected, not that they are placed at the top of an absolute hierarchical order. The point of equilibrium, precisely because it is dynamic and not fixed in advance, must be assessed by the legislator in the establishment of the rules and by the judge of laws in the control according to criteria of proportionality and reasonableness, such as not to allow a sacrifice of their essential core*» (translation is mine).
48. This important step has been clarified, *inter alia*, also by the Council of State, Plenary Assembly, 27 July 2016, No. 17, according to which simplifying means speeding up procedures, certainly not «*censure the failure to carry out the Environmental Impact Assessment as required by Directive No. 85/337/EEC, which provides for the need for a thorough investigation of these issues*» (translation is mine).
49. This Legislative Decree concerns “Urgent provisions on the extension of legislative terms, the organization of public administrations, as well as technological innovation”. It is interesting to remark that the legislator emphasises the centrality of the role acquired by the consumer in a logic of decentralisation as stated by the aforementioned principle “energy efficiency first”. In this regard, see F. Di Porto, *Dalla convergenza digitale-energia l’evoluzione della specie: il consumatore “iper-connesso”*, in *Mercato Concorrenza Regole*, 1, 2016, pp. 70-ss.; D. Vazio, *Liberalizzazione della domanda elettrica e scelte dei consumatori*, in A. Clò, S. Clò, F. Baffa, *Riforme elettriche tra efficienza ed equità*, il Mulino, Bologna, 2015, pp. 298-300; T. Favaro, *Regolare la “transizione energetica”*: *Stato, Mercato, Innovazione*, Cedam, Padova, 2020, pp. 116-ss.
- On this point, however, C. Bevilacqua, *Le comunità energetiche tra governance e sviluppo locale*, in *Amministrazione In Cammino*, 2020, pp. 1-15, has repeatedly stressed that in Italy «*the sector’s development prospects are wide and, despite some intentions, regions have already legislated in there are regulatory and administrative obstacles that in practice limit the feasibility or profitability of projects. The current Italian legal system seems to be the only one in Europe that does not yet have at least a principled and organic regulation of this model; on the other hand, the current one does not allow for the realisation of self-production systems (so-called One to Many), limiting the development of new distributed generation projects even with configurations in which there is only one producer connected to only one consumer*» (translation is mine).
- In the same sense, see, *inter alia*, E. Bruti Liberati, F. Donati, *Il nuovo diritto dell’energia tra regolazione e concorrenza*, Giappichelli, Torino, 2007; D. Florenzano, S. Manica (a cura di), *Il governo dell’energia fra Stato e Regioni*, Università degli Studi di Trento, Trento, 2009.
50. This Resolution concerns “Regulation of economic matches related to electricity shared

by a group of self-consumers of renewable energy acting collectively in buildings and condominiums or shared in a renewable energy community”.

On the same topic, see N. Bassi, *Le infrastrutture energetiche fra competenze legislative statali e attribuzioni amministrative delle autonomie territoriali: dalla teoria (contraddittoria) alla prassi (confusa)*, in *Rivista della Regolazione dei Mercati*, 1, 2014, p. 5-ss.; L. Ammannati, *L'incertezza del diritto. A proposito della politica per le energie rinnovabili*, in *Rivista Quadrimestrale di Diritto dell'Ambiente*, 3, 2011, pp. 12-ss.; L. Ammannati, *La disciplina europea sull'efficienza energetica e il modello italiano: discrezionalità e vincoli per gli Stati Membri*, in P. Biandrino, M. De Focatiis (a cura di), *Efficienza energetica ed efficienza del sistema dell'energia. Un nuovo modello?*, Cedam, Milano, 2017, pp. 31-ss.

51. In this regard, see the 62nd preamble of to the Directive 2018/2001/UE which states that «*regional and local authorities often set more ambitious renewable targets that exceed national targets. Regional and local commitments to stimulating development of renewable energy and energy efficiency are currently supported through networks, such as the Covenant of Mayors, Smart Cities or Smart Communities initiatives, and the development of sustainable energy action plans. Such networks are essential and should be expanded, as they raise awareness and facilitate exchanges of best practices and available financial support. In that context, the Commission should support interested innovative regions and local authorities to work across borders by assisting in setting up cooperation mechanisms, such as the European Grouping of Territorial Cooperation, which enables public authorities of various Member States to collaborate and deliver joint services and projects, without requiring a prior international agreement to be signed and ratified by national parliaments. Other innovative measures to attract more investment into new technologies, such as energy-performance contracts and standardisation processes in public financing, should also be considered*».

In order to understand the increasingly important role that local autonomies are playing, see R.J. Hewitt, N. Bradley, A. B. Compagnucci, C. Barlagne, A. Ceglaz, R. Cremades, M. Mckneen, I. M. Otto, *Social Innovation in Community Energy in Europe: A Review of the Evidence*, in *Frontiers in Energy Research*, 7, 2019.

In this regard, it is also interesting to remark how G. De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8, 2019, pp. 2-28, addresses the concept of smart from an innovative perspective. The Author states that «*cities and urban communities have a central role to play in promoting change in a smart perspective that stands for efficient, capable, inclusive, modern, sustainable*» (translation is mine).

In the same regard, see, *inter alia*, I. Leoni, S. Viti, *Soluzioni innovative e strumenti finanziari per le Smart City: ripartire dalle buone pratiche*, in *Energia, Ambiente ed Innovazione*, 1, 2017, pp. 86-ss.; A. Prontera, *Politiche energetiche e governo locale. Il caso delle Marche*, in *Istituzioni del Federalismo*, 3-4, 2008, pp. 483-ss.

52. Energy communities are therefore “not-for-profit organisations”, whose objective is to provide environmental, economic or social benefits at community level to its shareholders or members or to the local areas in which they operate, rather than financial gain.

In this regard, see Article 22, paragraph 4, lett. e), f), g), h), i), of Directive 2018/2011/UE that states: *«renewable energy communities are not subject to discriminatory treatment with regard to their activities, rights and obligations as final customers, producers, suppliers, distribution system operators, or as other market participants; the participation in the renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households; tools to facilitate access to finance and information are available; regulatory and capacity-building support is provided to public authorities in enabling and setting up renewable energy communities, and in helping authorities to participate directly; rules to secure the equal and non-discriminatory treatment of consumers that participate in the renewable energy community are in place».*

As a consequence, as argued by Miccù, M. Bernardi, *Premesse ad uno studio sulle Energy communities: tra governance dell'efficienza energetica e sussidiarietà orizzontale*, in *Federalismi.it*, 4, 2022, pp. 603-646, Renewable Energy Communities seem, then, to be placeable *«within a barely studied dimension of “active citizenship”, aimed at protecting economic, environmental and social interests, in coherence with the paradigm of substantial equality as set out in Article 3, paragraph 2, of the Constitution; an active citizenship that is realised through enterprises exercised by organisations that are capable of transforming responsible citizens into responsible co-entrepreneurs in the name of effective equity»* (translation is mine).

Moreover, on the concept of “member of citizen energy communities” please consider also the 44th preamble to the Directive 2019/944/UE which states that *«membership of citizen energy communities should be open to all categories of entities. However, the decision-making powers within a citizen energy community should be limited to those members or shareholders that are not engaged in large-scale commercial activity and for which the energy sector does not constitute a primary area of economic activity. Citizen energy communities are considered to be a category of cooperation of citizens or local actors that should be subject to recognition and protection under Union law. The provisions on citizen energy communities do not preclude the existence of other citizen initiatives such as those stemming from private law agreements. It should therefore be possible for Member States to provide that citizen energy communities take any form of entity, for example that of an association, a cooperative, a partnership, a non-profit organisation or a small or medium-sized enterprise, provided that the entity is entitled to exercise rights and be subject to obligations in its own name».*

In the same sense, it's worth noting the 46th preamble of the above-mentioned Directive which states that *«citizen energy communities constitute a new type of entity due to their membership structure, governance requirements and purpose. They should be allowed to operate on the market on a level playing field without distorting competition, and the rights and obligations applicable to the other electricity undertakings on the market should be*

applied to citizen energy communities in a non-discriminatory and proportionate manner. Those rights and obligations should apply in accordance with the roles that they undertake, such as the roles of final customers, producers, suppliers or distribution system operators. Citizen energy communities should not face regulatory restrictions when they apply existing or future information and communications technologies to share electricity produced using generation assets within the citizen energy community among their members or shareholders based on market principles, for example by offsetting the energy component of members or shareholders using the generation available within the community, even over the public network, provided that both metering points belong to the community. Electricity sharing enables members or shareholders to be supplied with electricity from generating installations within the community without being in direct physical proximity to the generating installation and without being behind a single metering point. Where electricity is shared, the sharing should not affect the collection of network charges, tariffs and levies related to electricity flows. The sharing should be facilitated in accordance with the obligations and correct timeframes for balancing, metering and settlement [...]».

In this regard, see, *inter alia*, R.J. Hewitt, N. Bradley, A. B. Compagnucci, C. Barlagne, A. Ceglaz, R. Cremades, M. Mckneen, I. M. Otto, *Social Innovation in Community Energy in Europe: A Review of the Evidence*, in *Frontiers in Energy Research*, 7, 2019; E. Ferrero, *Le comunità energetiche: ritorno a un future sostenibile*, in *Ambiente&Sviluppo*, 8-9, 2020.

53. On this point R. Miccù, M. Bernardi, *Premesse ad uno studio sulle Energy communities: tra governance dell'efficienza energetica e sussidiarietà orizzontale*, in *Federalismi.it*, 4, 2022, pp. 603-646 observe that «[...] in the meantime, it should be noted that this is a different figure with greater autonomy with respect to the merely passive consumer, especially the vulnerable one, since it is a subject who is at the same time producer – although production does not correspond to the prevalent economic activity – and final customer of electricity. [...] Prosumers are instrumental to the publicist objective of integrating the energy market, promoting not (any longer) trilateral, but horizontal relations, given the possibility of exchanging self-produced electricity directly between private individuals, favouring the matching of supply and demand and the reduction of information asymmetries» (translation is mine). In the same regard, see, *inter alia*, A. Quarta, *Il diritto dei consumatori ai tempi della peer economy. Prestatori di servizi e prosumers: primi sputi*, in *Eur. Dir. Priv.*, 2017, pp. 665.ss.; M. Maugeri, *Elementi di criticità nell'equiparazione, da parte dell'AEESGI, dei "prosumer" ai "consumatori" e ai "clienti finali"*, in *Nuova Giurisprudenza Civile Commentata*, 2, 2015, pp. 404-ss.

Furthermore, it is interesting what was explained by C. Bevilacqua, *Le comunità energetiche tra governance e sviluppo locale*, in *Amministrazione In Cammino*, 2020, pp. 1-15, the Author underlines that «citizens, who become producers and consumers (so-called "prosumers"), must be granted the right to participate in an energy community while preserving their rights as simple consumers consumer, at the same time Member States are asked to remove existing or potential barriers that may hamper the local development of renewable energy communities and to guarantee them non-discriminatory market

access»(translation is mine).

54. The COVID-19 was certainly, in Italy, an accelerating factor with respect to the spread of digitisation. The same is harder to say with regard to the ecological transition where European environmental policies were already quite advanced. In this regard, see F. Capriglione, *Covid-19. Quale solidarietà, quale coesione nell'UE? Incognite e timori*, in *Rivista Trimestrale di Diritto dell'Economia*, 2, 2020, pp. 167-227; A. Rosanò, *Le conseguenze economiche del Coronavirus e la battaglia sul quadro finanziario pluriennale 2021-2027: alla ricerca di un principio di solidarietà europea*, in *Federalismi.it*, 24, 2020, pp. 289-308.

55. To understand the possible uses of ICTs, consider that, for example, the use of smart devices could be able to constantly monitor the cost of energy used in real time, undoubtedly fostering conscious consumer participation, orienting the resulting demand in the electricity market with a view, once again, to energy efficiency.

On these notions, see, *inter alia*, M. Falcione, *Demand response: risparmio energetico dal lato della domanda. Il contributo volontario degli utenti finali alla flessibilità del consumo elettrico*, in L. Carbone, G. Napolitano, A. Zoppini (a cura di), *Annuario di diritto dell'energia. Politiche pubbliche e disciplina dell'efficienza energetica*, il Mulino, Bologna, 2016, pp. 385-ss.; R. Leal-Arcas, F. Lesniewska, F. Proedrou, *Prosumers and New Energy Actors*, in M. Mpholo, D. Steuerwald, T. Kukeera, *Africa-EU Renewable Energy Research and Innovation Symposium*, Springer Proceedings in Energy, 2018, The Authors observe that «one way to increase participation is through the promotion of demand response measures amongst consumers. Demand response “is a tariff or programme established to incentivise changes in electric consumption patterns by end-use consumers from their normal consumption patterns in response to changes in the price of electricity over time, or to incentivise payments designed to induce lower electricity use at times of high market prices or when system reliability is jeopardized”».

In this regard, it is worth mentioning M. Libertini, *La tutela della libertà di scelta del consumatore e i prodotti finanziari*, in *Astrid Rassegna*, 2010.

With particular attention to the future perspectives of ICT use, see, *inter alia*, E. Mengelkamp, B. Notheisen, C. Beer, D. Dauer, C. Weinhardt, *A blockchain-based smart grid: towards sustainable local energy markets*, in *Computer Science – Research and Development*, 33, 2018, pp. 207-ss. (A blockchain-based smart grid: towards sustainable local energy markets | SpringerLink); V. Cappelli, “Blockchain” e fornitura di energia. *Riflessioni in materia di responsabilità tra decentralizzazione e tutela dei consumatori*, in *Osservatorio del diritto civile e commerciale*, 2019, pp. 335-ss.; V. Palmisano, *Il Clean Energy Package e gli abilitanti normativi al modello peer-to-peer e allo smart contract. Un nuovo modello di energia decentralizzata e partecipata*, in E.B. Liberati, M. De Focatiis, A. Travi, *Il teleriscaldamento, la Blockchain e i contratti intelligenti*, Cedam, Milano, 2020; C. Henly, S. Hartnett, S. Mardell, B. Endemann, B. Tejblum, and D. S. Cohen, *Energizing the Future with Blockchain*, Energy Bar Association, final 11/14/18, Springer, 2018, pp. 199-ss. (14-197-232-Blockchain_[FINAL].pdf (eba-net.org).

With reference to the blockchain, the Authors state that *«regulators today face a fundamental challenge: how can they best meet their regulatory compact with utilities while empowering consumers to capture value from distributed generation, storage, smart controls, and other digital solutions that are becoming more widespread? And how does that compact sit alongside mandates for resiliency (the ability to resist and rapidly recover from physical and cyber disruptions), environmental outcomes (notably decarbonization), consumer choice, and energy access and equality? Until recently, regulators have mainly relied on centralized technology – owned and operated by utilities and independent power producers – to manage electricity markets and the operation of the electricity grid. These central approaches are ill-equipped to efficiently and effectively coordinate the dramatically increasing number of distributed energy resources on the grid while maintaining security and reliability. Regulators have a need and an opportunity to adopt new approaches and technologies that can leverage DERs to create a reliable, affordable, secure, low-carbon grid that benefits end-consumers. Blockchain technology, which was invented, in part, to coordinate distributed market actors, is particularly well suited to efficiently and securely coordinate a decentralized network of energy resources and can help make electricity markets more secure, open, and efficient. Blockchain can enable the decentralized, resilient, and stable electrical grid that utilities, regulators and consumers seek».*

In addition, a further interesting application of ICT is described by Directive 2018/844/EU, which introduces an “indicator of the readiness of buildings for intelligence”. The concept is certainly complex to understand; however, the 30th preamble to the aforementioned directive explains how the aim of the indicator is, in summary, to measure the ability of buildings to adapt energy consumption in an efficient and sustainable perspective: *«the smart readiness indicator should be used to measure the capacity of buildings to use information and communication technologies and electronic systems to adapt the operation of buildings to the needs of the occupants and the grid and to improve the energy efficiency and overall performance of buildings. The smart readiness indicator should raise awareness amongst building owners and occupants of the value behind building automation and electronic monitoring of technical building systems and should give confidence to occupants about the actual savings of those new enhanced-functionalities [...]».*

In this regard, the above-mentioned Directive states – with reference to the renovation of buildings – the necessity *«to achieve a highly energy efficient and decarbonised building stock and to ensure that the long-term renovation strategies deliver the necessary progress towards the transformation of existing buildings into nearly zero-energy buildings, in particular by an increase in deep renovations, Member States should provide clear guidelines and outline measurable, targeted actions as well as promote equal access to financing, including for the worst performing segments of the national building stock, for energy-poor consumers, for social housing and for households subject to split-incentive dilemmas, while taking into consideration affordability [...]».*

On the same topic, see A. Lorenzoni, *La produzione elettrica con fonti rinnovabili per la*

- sostenibilità e la competitività dell'economia italiana, in *L'industria*, 1, 2008, pp. 126-ss; G. De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8, 2019, pp. 2-28.
56. G. De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8, 2019, pp. 2-28, (translation is mine). In the same regard, see, *inter alia*, L. De Santoli, *Sviluppo di sistemi intelligenti per la de-carbonizzazione dell'energia*, in *Energia, Ambiente ed Innovazione*, 1, 2017, pp. 46-ss.; M. De Min, L. Lo Schiavo, *Un nuovo paradigma dei consumi elettrici per un consumatore più evoluto*, in L. Ammannati (a cura di), *La transizione energetica*, Giappichelli, Milano, 2008 pp. 141-ss.
57. But not only that. Consider that the functions of energy communities are not limited to the traditional activities of energy generation and supply. Consider all those secondary services that could arise, such as, for example, energy efficiency services, recharging services for electric vehicles, thus leading – as already mentioned – to an innovative model of collaboration between citizens and municipal administrations. The result theorised by the Doctrine is the so-called “distributed governance” model.
- In this regard, see M. Miccù, M. Bernardi, *Premesse ad uno studio sulle Energy communities: tra governance dell'efficienza energetica e sussidiarietà orizzontale*, in *Federalismi.it*, 4, 2022, pp. 603-646.
- It's worth nothing the *Regulatory Aspects of Self-Consumption and Energy Communities*, report of June 2019, pp. 7-28, drafted by the Council of European Energy Regulators (CEER) (CEER report (europa.eu), which reports that «the diverse reality of (collective) self-consumption and energy communities, and the wide scope of the definitions in the CEP means that active consumers, renewable self-consumers and (renewable/citizens) energy communities touch upon many different areas of regulation. Particularly within the realm of consumer protection and network regulation, including supplier and network charging arrangements. Certain aspects of energy communities, such as community ownership of simple generation assets or direct services to the local community (e.g., advice on energy efficiency or initiatives to help reducing energy poverty) are largely unproblematic from a regulatory point of view. However, energy sharing, be it directly or within energy communities, in some respects defies the classical supplier-customer relationship. Energy communities may act as a supplier, as a service provider (e.g., providing aggregation services) or, if allowed by the relevant MS, as a grid operator. These activities fall under the realm of the Electricity Market Regulation, and consequently need particular attention from a regulatory point of view [...]».
58. On the relationship between the expressions “sustainable development” and “ecological transition”, in order to point out that, thanks to European legislation, the former has evolved towards the latter with not insignificant effects in terms of the definition of policies addressed to states as well as the instruments concretely employed, please see L. Ammannati, *La transizione dell'Unione Europea verso un modello energetico eco-sostenibile tra scelte politiche, regolazione e dinamiche di mercato*, in *Energia, ambiente ed innovazione*, 2, 2018, pp. 10-18-ss., and A. Moliterni, *La Strategia energetica nazionale: il*

problema del monitoraggio e del controllo, in L. Carbone, G. Napolitano, A. Zoppini (a cura di), *Annuario di diritto dell'energia. La Strategia energetica nazionale: "governance" e strumenti di attuazione*, il Mulino, Bologna, 2019, pp. 235-263, and V. Termini, *Regionalizzazione dei mercati e governance istituzionale*, in E. B. Liberati, M. De Focatiis, A. Travi (a cura di), *La transizione energetica e il Winter Package. Politiche pubbliche e regolazione dei mercati. Atti del Convegno Aiden*, CEDAM, Milano, 2018, pp. 64-ss. The Author notes that «*reflecting what has been pointed out by the electricity transmission system operators "regionalisation [...] is not the creation of new borders, but is a way to facilitate the relationship between the European and national levels. It is about utilising the advantages of proximity, conducting pilot projects, testing new solutions in the regional sphere and making it easier to work together to achieve the Energy Union. Regional actions make it possible to move faster, to test and disseminate innovative solutions and to reach specific conclusions"*».

59. European Commission, think tank on *Energy poverty and vulnerable consumers in the energy sector across the EU: analysis of policies and measures*, 2021, Insight_E. In the same regard, see F. Donati, *La Roadmap 2050 e la governance europea dell'Energia*, in *Rivista della regolazione dei mercati*, 1, 2014, pp. 67-80.
60. This definition was drafted during the Citizens' Energy Forums held by the European Commission. The aim of this initiative is to «*explore consumers' perspective and role in a competitive, "smart", energy-efficient and fair energy retail market. As such, the forum serves to structure the debate and channel consumers', regulators' and industry's view on the energy market and its future, directly feeding into the work of the European Commission in the energy and consumer policy areas*». (Citizens' Energy Forums (europa.eu)).
61. A. Werth, P. Gravino, G. Prevedello, *Impact analysis of COVID-19 responses on energy grid dynamics in Europe*, Applied Energy, 2021, pp. 281-ss.
62. S. Bouzarovski, *Energy Poverty Policies at the EU Level*, in S. Bouzarovski, *Energy Poverty* (Springer Nature 2018).
63. See European Group on Ethics in Science and New Technologies (European Commission), *An ethical framework for assessing research, production and use of energy*, Opinion No. 27, 2013 (An ethical framework for assessing research, production and use of energy - Publications Office of the EU (europa.eu)).
64. See European Commission, COM (2006) 841 final of 10 January 2007, on prospects for the internal gas and electricity market (Prospects for the internal gas and electricity market. Communication from the Commission to the Council and the European Parliament. COM (2006) 841 final, 10 January 2007 - Archive of European Integration (pitt.edu)).
65. See Commission Recommendation (EU) 2020/1563 of 14 October 2020, on energy poverty (<https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:32020H1563>).
66. European Commission, COM (2020) 662 final of 14 October 2020, on a Renovation Wave for Europe - greening our buildings, creating jobs, improving lives (EUR-Lex - 52020DC0662 - EN - EUR-Lex (europa.eu)).

67. Among the others, Italy has defined the problem as the difficulty faced by part of the population to purchase or to access a minimum basket of goods and services relating to energy, given that it implies a distraction of resources bigger than normal. On the matter, see the Integrated National Energy and Climate Plan 2021-2030.
68. S. Pye, A. Dobbins, C. Baffert, J. Brajković, I. Grgurev, R. Miglio, P. Deane, *Addressing Energy Poverty and Vulnerable Consumers in the Energy Sector Across the EU*, in *L'Europe en Formation*, 2015.
- For an analysis on the measures under a behavioral economics perspective see also N. Della Valle, *People's decisions matter: understanding and addressing energy poverty with behavioral economics*, in *Energy & Buildings*, 2019, pp. 204.
69. Energy Poverty Report 2019 presented by Oipe (*Osservatorio Italiano sulla Povertà Energetica*) on 4 June 2019 in Milan at ARERA headquarter (Rapporto_OIPE_sulla_poverta_energetica_2019.pdf (oipeosservatorio.it)).
70. The reference is to the Citizens' Energy Forums held by the European Commission (Citizens' Energy Forums (europa.eu)).
71. See Home - United Nations Sustainable Development. In particular, see the Goal No. 11 entitled "Sustainable cities and communities".
72. The concept of "technological innovation" brings with it the idea of ensuring greater energy efficiency for citizens in the sense of guaranteeing universal access to the (renewable) energy market. In this sense, see, *inter alia*, D. Zillman, M. Roggenkamp, L. Paddock, L. Godden, *How technological and legal innovation are transforming energy law*, in D. Zillman, M. Roggenkamp, L. Paddock, L. Godden (a cura di), *Innovation in energy law and technology: dynamic solutions for energy transitions*, Oxford University Press, 2018, pp. 1-19.
- It is worth noting that, as pointed out by R. Miccù, M. Bernardi, *Premesse ad uno studio sulle Energy communities: tra governance dell'efficienza energetica e sussidiarietà orizzontale*, in *Federalismi.it*, 4, 2022, pp. 603-646, «on a global dimension, the need to ensure universal access to sustainable energy even in the most remote parts of the world has led to the increasing linkage between energy and climate policies in order to achieve the transition to a carbon-neutral economy» (translation is mine).
73. It is interesting to reflect on the possible connections between energy communities and the concept of "smart communities", from which the "smart cities" model draws its origins. In this regard, see T. Favaro, *Verso la "smart cities": sviluppo economico e rigenerazione urbana*, in *Rivista giuridica dell'edilizia*, 2, 2020. The Author observes that «given the lack of a definition in Article 20 of Law Decree No. 179/2012, containing the national discipline of the so-called "smart communities", it is necessary to look to the guidelines published by AgID in 2012, which define the intelligent community as "that place and/or territorial context where the planned and wise use of human and natural resources, appropriately managed and integrated through the numerous ICT technologies already available, allows for the creation of an ecosystem capable of making the best use of resources and providing integrated and increasingly intelligent services (i.e. whose value is greater

than the sum of the values of the parts that make them up)» (translation is mine).

74. In this regard, consider that the 2nd preamble of Directive 2018/2022/EU on energy efficiency assigns primary importance to the so-called “energy efficiency first” principle: *«energy efficiency should be recognised as a crucial element and a priority consideration in future investment decisions on the Union’s energy infrastructure».*

With regard to the principle of “energy efficiency first” and the so-called “Winter Package”, see L. Ammannati, *La transizione dell’Unione Europea verso un modello energetico eco-sostenibile tra scelte politiche, regolazione e dinamiche di mercato*, in *Energia, ambiente ed innovazione*, 2, 2018, pp. 85-ss. (<https://www.eai.enea.it/component/jdownloads/?task=download.send&id=227&catid=8&Itemid=101>).

The Author explains that *«the transition to energy production from renewable sources has exacerbated a conflict between policies for the creation of an efficient single market and national policies. The European Commission’s proposed approach to policies for energy efficiency, renewables and reduction of greenhouse gas emissions with the “Winter Package” of November 2016 removes many constraints on member states but must steer them towards the common goals of the Union. This aim is pursued by the draft regulation on governance that reshapes the relationship between the Commission and Member States.*

However, the instruments in the hands of the Commission do not seem entirely adequate for an effective convergence between national choices and Union objectives» (translation is mine). With respect to the concept of “building renovation” the above-mentioned Directive (11th preamble) states that *«energy efficiency improvement measures also have a positive impact on air quality, as more energy efficient buildings contribute to reducing the demand for heating fuels, including solid heating fuels. Energy efficiency measures therefore contribute to improving indoor and outdoor air quality and help achieve, in a cost-effective manner, the objectives of the Union’s air quality policy, as established in particular by Directive (EU) 2016/2284 of the European Parliament and of the Council».*

75. It should be noted that the present case allows us to see the concept of “micro-regeneration”, as theorized, *inter alia*, by R. Dipace, *Le politiche di rigenerazione dei territori tra interventi legislativi e pratiche locali*, in *Istituzioni del Federalismo*, 3, 2017, pp. 625-650.

In the case of the Brindisi Energy Community, citizens have played an important role in planning decisions, assuming a fundamental role on an equal level with the public administration. Urban regeneration interventions, of which the constitution of an energy community is a full component, are centred on *«forms of collaboration of citizens with the administration for the care and regeneration of urban commons»* (translation is mine), giving particular implementation to Article 117, paragraph 6 of the Italian Constitution, as explained by G. Arena, *Amministrazione e società. Il nuovo cittadino*, in *Riv. trim. dir. pubbl.*, 1, 2017, pp. 42-ss. In the same direction see G. Piperata, *Rigenerare i beni e gli spazi della città: attori, regole e azioni*, in E. Fontanari, G. Piperata (a cura di), *Agenda RECycle*, il Mulino, Bologna, 2017, pp. 28-ss, and R. Dipace, *La rigenerazione urbana tra*

programmazione e pianificazione, in *Riv. Giur. Edil.*, 4, 2014, pp. 237-260.

On the concept of “cooperation” between citizens and local administrations, the 70th preamble to the Directive 2018/2001/EU provides that *«the participation of local citizens and local authorities in renewable energy projects through renewable energy communities has resulted in substantial added value in terms of local acceptance of renewable energy and access to additional private capital which results in local investment, more choice for consumers and greater participation by citizens in the energy transition. Such local involvement is all the more crucial in a context of increasing renewable energy capacity. Measures to allow renewable energy communities to compete on an equal footing with other producers also aim to increase the participation of local citizens in renewable energy projects and therefore increase acceptance of renewable energy»*.

Moreover, the Brindisi experience demonstrates the importance of public administration in the establishment of energy communities. In this sense, see C. Bevilacqua, *Le comunità energetiche tra governance e sviluppo locale*, in *Amministrazione In Cammino*, 2020, pp. 1-15, which states that *«the creation of these forms of associated energy management/distribution appears necessary even before it is useful, just as it appears necessary that after their implementation, each energy community will have to equip itself with a strategic plan for the reduction and efficiency of energy consumption from non-renewable sources in coherence with the regional energy-environmental plan, as well as energy of its own budget model»* (translation is mine).

76. The association BREC (*Brun Rete Energetica Comune*), owner of the project, aims to install 600 KW of panels, in order to reduce household energy expenditure, estimating a recovery percent on the cost related to electrical energy consumption of 30/40% and to raise awareness of the rational use of resources (Prima comunità energetica a Brindisi, presentati l'associazione BREC e il progetto pilota - PRESS REGIONE - Regione Puglia). In this regard, see with the development of the new website developed by Calabria Region, concerning the supporting local authorities and private actors in the area in the implementation of Energy Communities (Il primo portale italiano dedicato alle Comunità energetiche è della Regione Calabria | QualEnergia.it).
77. The reference is to the “17 Goals for People, for Planet”, and in particular *«the Sustainable Development Goals are a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere. The 17 Goals were adopted by all UN Member States in 2015, as part of the 2030 Agenda for Sustainable Development which set out a 15-year plan to achieve the Goals. Today, progress is being made in many places, but, overall, action to meet the Goals is not yet advancing at the speed or scale required. 2020 needs to usher in a decade of ambitious action to deliver the Goals by 2030»* (The Sustainable Development Agenda - United Nations Sustainable Development).
With reference to the principle of sustainable development and energy communities, see, *inter alia*, E. Cusa, *Sviluppo sostenibile, cittadinanza attiva e comunità energetiche*, in *Orizzonti del diritto commerciale*, 1, 2020.
78. To understand how energy communities can be a key driver for sustainable development,

- see, *inter alia*, E. Scotti, *Poteri pubblici, sviluppo sostenibile ed economia circolare*, in *Il diritto dell'economia*, 1, 2019, pp. 497-ss.
79. See, *inter alia*, European Commission, Communication on a *Roadmap to a Resource Efficient Europe*, COM/2011/571, 20 September 2011, in which it is stated that «2020 Strategy and its flagship initiative on “A Resource Efficient Europe” set the EU on the path to this transformation. The flagship called for a roadmap “to define medium and long term objectives and means needed for achieving them”. This Roadmap builds upon and complements the other initiatives under the flagship, in particular the policy achievements towards a low carbon economy and takes into account progress made on the 2005 Thematic Strategy on the Sustainable Use of Natural Resources and the EU's strategy on sustainable development. The Roadmap should also be seen in the context of worldwide efforts to achieve a transition towards a green economy. It draws extensively on a range of sources which are referenced in the accompanying Staff Working Document, including the European Environment Agency's report on the state and outlook for the European Environment» (EUR-Lex - 52011DC0571 - EN - EUR-Lex (europa.eu)).
80. Translation is mine.
81. See note No. 21. Moreover, see, *inter alia*, G. Guzzardo, *La regolazione multilivello del consumo di suolo e del riuso dell'abitato*, in *Rivista Italiana di Diritto Pubblico Comunitario*, 1, 2018, pp. 119-ss.; C. Pagliaroli, *Alla Corte Costituzionale la legge regionale lombarda sul contenimento del consumo di suolo*, in *Rivista giuridica dell'edilizia*, 4, 2018, pp. 937-ss.; De Maio, *Cambiamento climatico ed energia rinnovabile decentrata: il ruolo dei governi locali*, in *Federalismi.it*, 8, 2019, pp. 2-28; L. Minganti, *Il contenimento del consumo di suolo fra legislazione nazionale e regionale: le risposte di Veneto ed Emilia-Romagna*, in *Istituzioni del Federalismo*, 1, 2020, pp. 251-ss.; ISPRA, *Consumo di suolo, dinamiche territoriali e servizi ecosistemici*, 2018, (Consumo di suolo, dinamiche territoriali e servizi ecosistemici. Edizione 2018 — Italiano (isprambiente.gov.it)); M.G. Della Scala, *Lo sviluppo urbano sostenibile e gli strumenti del governo territoriale tra prospettive di coesione e tutela dei diritti fondamentali*, in *Dir. Amm.*, 4, 2018, pp. 787-ss.; P. Carpentieri, *Il “consumo” del territorio e le sue limitazioni. La “rigenerazione urbana”*, in *Federalismi.it*, 1, 2020, pp. 2-ss.; B. L. Boschetti, *Gestione della risorsa suolo e politiche pubbliche: modelli a confronto*, in E. Boscolo (a cura di), *Annuario dell'Associazione italiana di diritto urbanistico*, Giuffrè, Milano, 2013-2014, pp. 1-50. For more information regarding the concept of “soil consumption”, see G. Severini, “Paesaggio”: storia italiana, ed europea, di una veduta giuridica, in *Aedon – Rivista di arti e diritto online*, 1, 2019, pp. 5-ss. (Aedon 1/2019, Severini, “Paesaggio”: storia italiana, ed europea, di una veduta giuridica (mulino.it)); M. A. Sandulli (a cura di), *Codice dei beni culturali e del paesaggio*, 3° ed., Giuffrè, Milano, 2019. Is also interesting what was stated by E. BOSCOLO, *Oltre il territorio: il suolo quale matrice ambientale e bene comune*, in *Urbanistica e Appalti*, 2, 2014, pp. 129-ss.; P. Urbani, *A proposito della riduzione del consumo di suolo*, in *Riv. Giuridica Edil.*, 3, 2016, pp. 226-ss.; P. Chirulli, *Urbanistica e interessi differenziati: dalle tutele parallele alla pianificazione integrata*, in *Dir.*

Aministrativo, 2, 2015, pp. 50-ss.

82. See, *inter alia*, with A/CONF.216/5 and Report A/CON.216/16 concerning the Report of the United Nations Conference on Sustainable Development, 20-22 June 2012 (United Nations Conference on Sustainable Development | United Nations).
83. In this sense, renewable energy communities can gain a major role in facilitating the energy transition by promoting energy efficiency. With regard to the latter, the Doctrine has theorised the concept of “energy democracy” which, although frequently referred to, is never defined. Energy democracy is linked, as R. Miccù, M. Bernardi, *Premesse ad uno studio sulle Energy communities: tra governance dell’efficienza energetica e sussidiarietà orizzontale*, in *Federalismi.it*, 4, 2022, pp. 603-646 notes, «*directly to the possibility for energy communities and local authorities to participate alongside large private companies in the production and delivery of energy services*».

With regard to the “energy democracy”, the 43rd preamble to the Directive 2019/944/UE states that «*distributed energy technologies and consumer empowerment have made community energy an effective and cost-efficient way to meet citizens’ needs and expectations regarding energy sources, services and local participation. Community energy offers an inclusive option for all consumers to have a direct stake in producing, consuming or sharing energy. Community energy initiatives focus primarily on providing affordable energy of a specific kind, such as renewable energy, for their members or shareholders rather than on prioritising profitmaking like a traditional electricity undertaking. By directly engaging with consumers, community energy initiatives demonstrate their potential to facilitate the uptake of new technologies and consumption patterns, including smart distribution grids and demand response, in an integrated manner. Community energy can also advance energy efficiency at household level and help fight energy poverty through reduced consumption and lower supply tariffs. Community energy also enables certain groups of household customers to participate in the electricity markets, who otherwise might not have been able to do so. Where they have been successfully operated such initiatives have delivered economic, social and environmental benefits to the community that go beyond the mere benefits derived from the provision of energy services [...]*».

In the same sense, see, *inter alia*, C. Morris, A. Jungjohann, *Energy democracy. Germany’s Energiewende to renewables*, Basingstoke, Palgrave Macmillan, 2016; G. Pepe, *Il modello della democrazia partecipativa tra aspetti teorici e profili applicativi. Un’analisi comparata*, Cedam, Milano, 2020, pp. 40-ss.; U. Allegretti, *Basi giuridiche della democrazia partecipativa in Italia: alcuni orientamenti*, in *Democrazia e diritto*, 3, 2006, p. 4-ss.; A. Beltran, *Energia e democrazia politica. Qualche spunto storico*, in *Ricerche di storia politica-Quadrimestrale dell’Associazione per le ricerche di storia politica*, 1, 2018, pp. 51-62; V. SMIL, *Energy and Civilization: A History*, Mit Press, Cambridge, 2017; G. Osti, *Energia democratica: esperienze di partecipazione*, in *Aggiornamenti sociali*, 68, 2017, pp. 113-ss.

Another interesting perspective is provided by C. Bevilacqua, *Le comunità energetiche tra governance e sviluppo locale*, in *Amministrazione In Cammino*, 2020, pp. 1-15, which

states that «*the advantage of implementing energy communities, therefore, is to create a non-hierarchical system of local networks, but above all to increase autonomy and choice in terms of the solutions best suited to local needs, with redistribution of benefits across the territory by favouring local investments, local and regional cooperation, and, above all, involving citizens in the fight against energy poverty and climate change thanks to the possibility of self-consumption of the energy produced in accordance with the concrete application of the principle of horizontal subsidiarity*» (translation is mine).

84. It is useful to recall, in general, the impact of ICT on renewable energy, as well explained by A. Beltran, *Energia e democrazia politica. Qualche spunto storico*, in *Ricerche di storia politica-Quadrimestrale dell'Associazione per le ricerche di storia politica*, 1, 2018, pp. 51-62. The Author emphasises that «*with the appearance of information and communication technologies and the development of renewable energies (mainly solar and wind), the union is finally accomplished between these new technical possibilities that liberate the citizen and the democratic aspirations now capable of expression [...]. The advocates of this transition/revolution are arguing for decentralised energies (such as wind and solar) against centralised energies, whether fossil or other (nuclear), because such decentralisation allows for a better adaptation to the needs of the citizen*» (translation is mine).
85. Furthermore, it should be noted that, as pointed out by R. Miccù, M. Bernardi, *Premesse ad uno studio sulle Energy communities: tra governance dell'efficienza energetica e sussidiarietà orizzontale*, in *Federalismi.it*, 4, 2022, pp. 603-646, the Energy Communities may also represent «*not only a new model of governance for energy transition and efficiency, but more generally promote the socio-economic and environmental development of the territory, involving citizens in the fight against climate change and energy poverty, in accordance with the concrete application of the principle of horizontal subsidiarity*» (translation is mine).

In fact, it will be necessary to achieve a new horizontal balance between municipal powers and the private sphere of citizens as provided for in Article 2 and 118 of Italian Constitution.

86. See A. Grignani, *Le comunità di energia rinnovabile: utile risorsa per il contrasto alla povertà energetica*, in *Ambiente e Sviluppo*, 2, 2022, pp. 113-ss.
- In this sense, the Author states that «*in the face of an initial investment required to establish the renewable energy community, which could be borne by the municipal government (which is the entity on whose budget the expenses arising from the disbursement of the electricity bonus), the costs of energy services could be considerably reduced, thus allowing bonus recipients to no longer have to use them and at the same time have access to energy services in an adequate manner*» (translation is mine).